Examination of the Structure of Lithium
Alcoholates by the Method of Infrared
Absorption Spectra. O—Li...O Bond

S/020/61/136/003/018/027
B016/B052

vaseline or fluorinated oils) (Table 2). Since tert.-C_4H_9OLi is closely
associated, the authors conclude that lithium alcoholates and unbranched
aliphatic radicals are even more closely associated. This explains their
insolubility or low solubility in solvents in which tert.-C_4H_9OLi is easily
soluble. The authors approximately assigned the bonds of the four latter
alcoholates to the complex oscillations of the associated O—Li groups.
A more accurate assignment, however, will become possible by further
investigations. There are 2 tables and 21 references: 4 Soviet, 1 US, 3
British, and 2 German.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-
              chemical Institute imeni L. Ya. Karpov)

SUBMITTED: September 14, 1960
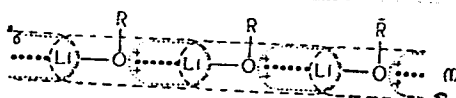
Card 3/3

29017

S/020/61/140/004/016/023
B106/B110

S 3700

AUTHORS   Talalayeva, T. V., Rodionov, A. N., and Kocheshkov, K. A.,
            Corresponding Member AS USSR

TITLE   Ternary complexes of methyl lithium

PERIODICAL Akademiya nauk SSSR. Doklady, v. 140, no. 4, 1961, 847-850

TEXT. Methyl lithium is very stable in diethyl ether and, thus, like the
aromatic lithium compounds, phenyl lithium and tolyl lithium, which form
ternary complexes of the composition $2RLi \cdot LiX \cdot 2(C_2H_5)_2O$ in ether solutions
(Ref. 2. T. V. Talalayeva, K. A. Kocheshkov, DAN, 104, 260 (1955)). The
authors investigated whether such ternary complexes also formed in the case
of methyl lithium. Crystalline ternary complexes of the composition
$CH_3Li \cdot LiX \cdot 2(C_2H_5)_2O$ (X = Br, I) could be isolated from ether solutions of
methyl lithium which were obtained by reacting lithium with methyl chloride
or iodide. These complexes are stable in nitrogen or argon atmosphere.
Primarily the less soluble lithium iodide dietherate precipitates when
lithium iodide exceeds methyl lithium. In case of lithium bromide excess

Card 1/5

Ternary complexes of methyl ..

in the solution. crystalline precipitates with increasing content of
lithium bromide and ether are formed e g , $CH_3Li \cdot 2LiBr \cdot 3(C_2H_5)_2O$ or

$CH_3Li \cdot 5LiBr \cdot 7(C_2H_5)_2O$ This behavior is similar to that of binary complexes
of aliphatic lithium compounds with lithium halides ($RLi \cdot nLiX$, n from 1.4
to 6), which form in the reaction of alkyl halides and aliphatic RLi in
hydrocarbon media The monoetherate of methyl lithium, $CH_3Li \cdot (C_2H_5)_2O$,

could be isolated from the above-mentioned ether solutions of methyl
lithium This compound contains small impurities of LiCl which are
probably complex-bound A fine powder with an IR spectrum characteristic
of crystalline methyl lithium is obtained when methyl lithium is
precipitated from ether solutions by excess n-pentane and the precipitate
dried in vacuo at 100°C (Ref 7 A N Rodionov, D N Shigorin, T V.
Talalayeva, K A Kocheshkov, DAN, 123, 113 (1958); Izv AN SSSR, OKhN,
1958, 120; Izv AN SSSR, ser fiz , 22, 110 (1958); T L Brown, M T
Rogers, J Am Chem Soc , 79, 1859 (1957)) This powder is, however,
poorly soluble in ether even when heated (0 2 0 5 M solutions) and
contains 6% lithium chloride impurities Presumably, methyl lithium
precipitates in highly associated form on destruction of the ether complex

Card 2/5

29017

S/OOG/61/110/004/018/023
B100/B110

Ternary complexes of methyl

by n-pentane Methylene dilithium, CH_2Li_2, a loose, fine precipitate of
extreme inflammability in air, forms on pyrolysis of the resultant powder
at 240°C according to Ref. 6 (K. Ziegler, K. Nagel, M. Patheiger, Zs. anorg
u. allgem. Chem., 282, 345 (1955)). Methyl lithium and methylene
dilithium were used to polymerize ethylene with $TiCl_4$ (1 : 1) (Ref. 9: K.
A. Kocheshkov, V. A. Kargin, T. V. Talalayeva, T. I. Sogolova, O. A.
Paleyev, Vysokomolek. soyed., 1, 152, (1959); J. Polym. Sci., 34, 121 (1959))
The IR spectrum of CH_3Li in the range 2000-650 cm^{-1} is not affected by
formation of the ternary complex of CH_3Li with lithium halide and ether
(Ref. 8: A. N. Rodionov, T. V. Talalayeva, D. N. Shigorin, K. A.
Kocheshkov, DAN, 136, 369 (1960)). The capability of forming ternary
complexes with ether and lithium bromide is not limited to aliphatic and
aromatic RLi but becomes also evident in the case of lithium acetylides
when pure acetylene is introduced into an ether solution of RLi
$(R = CH_3, C_6H_5, CH_3C_6H_4)$ containing an equimolecular quantity of lithium
bromide, lithium acetylide precipitates, which contains lithium bromide

Card 3/5

SIMONOV, A.P.; SHIGORIN, D.N.; TALALAYEVA, T.V.; KOCHESHKOV, K.A.

Infrared absorption spectra of some R - O - Li compounds.
Dokl. AN SSSR 141 no.3:665-667 N '61.   (MIRA 14:11)

1. Fiziko khimicheskiy institut im. L.Ya. Karpova. 2. Chlen-
korrespondent AN SSSR (for Kocheshkov).
                (Lithium organic compounds—Spectra)

TALALAEVA, T. V.

S/190/62/004/006/014/026
B124/B138

AUTHORS: Bokukina, A. F., Teporova, Ye. I., Sukhanatsova, G. V., Kalan-
... Kochechkov, K. A., Smirnova, ... A., Talalaeva, T. V.

TITLE: Synthesis and polymerization (copolymerization) of fluoron-
substituted styrenes. I. Copolymerization of fluoron-
substituted styrenes with vinyl monomers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 6, 1962, 845 –
...

TEXT: This paper describes the authors' experiments in the production and
characterization of the copolymers of α, β, β'-trifluoro styrene with 2,5-
difluoro styrene and methyl methacrylate; o-, m- and p-methyl-α, β, β'-.
trifluoro styrene with styrene, α, β-difluoro-β'-chloro styrene with
styrene, and 2,5-difluoro styrene. The emulsion used for copolymerization
consists of 80 – 85 % water, 2.5 emulsifier (sodium stearate or oleate),
and 0.5 % persulfate initiator. The monomer mixture, which was added drop-
wise after heating to 80 – 90°C, contained azoisobutyric acid dinitrile
(0.5 %) as initiator. Eleven copolymers of the above monomers were ob-
tained. Their compositions and properties are given in Table 2. The heat
Card 1/0

S/190/62/024/006/016/036
B124/B156

Synthesis and polymerization ...

resistance of the copolymers thus produced increases with the fluoro styrene content in the copolymer. An exception is that of α,β-difluoro-β-chloro styrene with styrene, the heat resistance of which is 4°C either than that of polystyrene produced under similar conditions. This is probably due to the low concentration of substituted styrene (16 mole %) in the copolymer, and to the extremely low molecular weight of the product ([η] = 0.09). There are 2 tables. The English-language references are: D. Livingston, J. Polymer Sci., 20, 485, 1956; M. Prober, J. Amer. Chem. Soc., 75, 968, 1953.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High-molecular Compounds of the AS USSR)

SUBMITTED: April 11, 1961

Table 2: Copolymerization time, yield, composition and intrinsic vis-cosities of the copolymers. Legend: (A) length, hours; (B) copolymer yield, %; (C) composition of copolymer (mole%); (D) intrinsic viscosities of the benzene solutions of copolymers at 20°C; (E) copolymers of

Card 2/C

SIMONOV, A.P.; SHIGORIN, D.N.; TALALAYEVA, T.V.; KOCHESHKOV, K.A.

Association of tert.C$_4$H$_9$OLi in the gaseous state. Izv.AN SSSR.-
Otd.khim.nauk no.6:1126 '62.   (MIRA 15:8)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.
                    (Lithium butoxide—Spectra)

SIMONOV, A.P.; SHIGORIN, D.N.; TALALAYEVA, T.V.; KOCHESHKOV, K.A.

Study of the lithium alcoholate structure by the method of infrared
absorption spectra; O-Li...O bond. Izv. AN SSSR.Ser.fiz. 26 no.10:
1246-1249 O '62.   (MIRA 15:10)

(Lithium alcoholate—Spectra)

5

KOCHESHKOV, K.A., PALEYEV, O.A., SOGOLOVA, T.I., SHEVERDINA, N.I.,
TALALAYEVA, T.V., RODIONOV, A.N.

Nouveaux composants des catalyseurs de la polymerisation de l'ethylene
dans des conditions habituelles et inhabituelles.

Report submitted for the International Symposium of Macromolecular Chemistry,
Paris, 1-6 July 63

RODIONOV, A.N.; SHIGORIN, D.N.; TALALAYEVA, T.V.; KOCHESHKOV, K.A.

Structure of complexes formed by aliphatic organolithium
compounds. Dokl. AN SSSR 143 no.1:137-139 Mr '62.
(MIRA 15:2)
1. Chlen-korrespondent AN SSSR (for Kocheshkov).
(Lithium organic compounds)

VASIL'YEVA, V.N.; KOCHESHKOV, K.A.; TALALAYEVA, T.V.; PANOV, Ye.M.;
KAZENNIKCVA, G.V.; SOROKINA, R.S.; PETRIY, O.P.

Dipole moments and structure of some fluorine-substituted
styrenes. Dokl. AN SSSR 143 no.4:344-846 Ap '62. (MIRA 15:3)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova. 2. Chlen-
kcrrespondent AN SSSR (for Kocheshkov).
        (Styrene--Dipole moments) (Fluorine compounds)

GOLOVANOV, I.B.; SIMONOV, A.P.; PISKUNOV, A.K.; TALALAYEVA, T.V.; TSAREVA,
     G.V.; KOCHESKOV, K.A.

Nuclear magnetic resonance spectra and ebullioscopy of lithium
alcoholates. Dokl. AN SSSR 149 no.4:835-837 Ap '63. (MIRA 16:3)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova. 2. Chlen-korre-
spondent AN SSSR (for Kocheshkov).
              (Lithium alcoholates—Spectra) (Ebullition)

RODIONOV, A.N.; TALALAYEVA, T.V.; SHIGORIN, D.N.; TYUMOFEYUK, G.N.;
        KOCHESHKOV, K.A.

    Structure of complexes formed by aliphatic organolithium compounds.
    Dokl. AN SSSR 151 no.5:1131-1134 Ag '63.   (MIRA 16:9)

    1. Fiziko-khimicheskiy institut im. L.Ya.Karpova. 2. Chlen-
    korrespondent AN SSSR (for Kocheshkov).
            (Lithium organic compounds) (Chemical structure)

TALALAYEVA, T.V.; RODIONOV, A.N.; KOCHESHKOV, K.A.

Synthesis of deuterio-substituted organolithium compounds. Dokl.
AN SSSR 152 no.1:122-123 S '63.   (MIRA 16:9)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova. 2. Chlen-
korrespondent AN SSSR (for Kocheshkov).
          (Lithium organic compounds) (Deuterium compounds)

TALALAEVA, T. V.; TSAREVA, G. V.; SIMONOV, A. P.; KOCHESHKOV, K. A.

Synthesis and structure of soluble lithium alcoholates.   Izv AN
SSSR Ser Khim no. 4:638-644   Ap '64.   (MIRA 17:5)

TALALAYEVA, T.V.; RODIONOV, A.N.; KOCHESHKOV, K.A.

Mixed complexes of phenyllithium, methyllithium, n-butyllithium,
and lithium halides. Dokl. AN SSSR 154 no.1:174-177 Ja'64.
(MIRA 17:2)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova.
2. Chlen-korrespondent AN SSSR (for Kocheshkov).

TALALAYEVA, T.V.; PETRIY, O.P.; TIMOFEYUK, G.V.; ZIMIN, A.V.;
KOCHESHKOV, K.A.

Synthesis of α,α'-difluoro-α,α'-dialkyl ethylenes
by means of organolithium compounds. Dokl. AN SSSR
154 no.2:398-400 Ja'64.   (MIRA 17:2)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova.
2. Chlen-korrespondent AN SSSR (for Kocheshkov)..

L   77-65   EPA(s)-2/EWT(m)/EPF(c)/EPF(n)-2/EPR/EWP(j)/EWP(t)/EWP(b)/EWA(c)
Pc-4/Pr-4/Ps-4/Pt-10/Pu-4   IJP(c)/RPL   JD/WW/JG/RM
S/0062/65/000/001/0042/0046

ACCESSION NR: AP5006412

AUTHOR: Rodionov, A. N.; Timifeyuk, G. V.; Talalayeva, T. V.; Shigorin, D. N.; Kocheshkov, K. A.

TITLE: Infrared spectra of certain acetylenides of lithium, sodium, and potassium

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1965, 42-46

TOPIC TAGS: spectrum analysis, acetylene, acetylene compound, lithium, lithium compound, sodium, sodium compound, potassium, potassium compound

ABSTRACT: The infrared spectra of certain aliphatic and aromatic acetylenides of lithium, sodium, and potassium were measured with a double-beam Hilger H-800 spectrometer with prisms of LiF, NaCl, and KBr (from 4000 to 400 cm^{-1}). Samples were taken in the form of a suspension in vaseline and fluorinated oils and were prepared in an atmosphere of dry argon. The infrared spectra obtained indicated characteristic oscillation frequencies of the groups found in this class of compounds ($C-H, \equiv C-H(D), C \equiv C, \equiv C-C, \equiv C-H, \equiv C-Li$). In comparison with the oscillation of acetylene and its halide derivatives that of the $\equiv C-H$ and the $C \equiv C$ groups is displaced 50-100 cm^{-1} in the direction of the long waves, due to intra- and intermolecular interactions of these groups. A shift of the oscillation frequency of the bond of the

Card 1/2

L 40777-65
ACCESSION NR: AP5006412

alkine group occurred in the order Li → Na → K. Orig. art. has: 1 table, 1 figure.

ASSOCIATION: Fiziko-khimicheskoy institut im. L. Ya. Karpova (Physical-Chemical Institute)

SUBMITTED: 01Mar63   ENCL: 00   SUB CODE: OC, OP

NO REF SOV: 002   OTHER: 004

Card 2/2

RODIONOV, A.N.; TALALAYEVA, T.V.; SHIGORIN, D.N.; RODIONOVA, G.N.;
    KOCHESHKOV, K.A.

Infrared spectra of isotope-substituted ethyllithium molecules.
Izv. AN SSSR. Ser. khim. no.4:604-610 '65.   (MIRA 18:5)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.

L 5062-66   EWT(m)/EPF(c)/EWP(j)   RPL   WW/RM
ACCESSION NR: AP5025509

UR/0062/65/000/009/1607/1613
547.1'3+547.362+546.34

AUTHOR: Talalayeva, T. V.; Timofeyuk, G. V.; Rodionov, A. N.; Kocheshkov, K. A.

TITLE: Lithium acetylenides

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 9, 1965, 1607-1613

TOPIC TAGS: organolithium compound, acetylene, benzene, hexane, ether, lithium

ABSTRACT: The authors synthesized crystalline lithium acetylenides in benzene, hexane, and ether in the range of 0 to -50C, using acetylene alkylacetylenes, and solutions of ethyllithium, n-butyllithium, n-amyllithium, phenyllithium, and p-tolyllithium. The products were analyzed for lithium, and their IR spectra were taken. In some cases, the compounds obtained were decomposed with heavy water, and the deuterated products were studied. It was thus shown that when acetylene reacts with solutions of organolithium compounds, lithium acetylenide is formed. When acetylene reacts with aliphatic organo- lithium compounds in hexane at 0 - 25C, crystalline lithium acetylenide is formed in 75 - 80% yield; when alkylacetylenes react with these compounds at -50C, lithium alkylacety-
Card 1/2

090/ 0211

L 5062-66

ACCESSION NR: AP5025509   4

lenides are formed in 75 - 90% yield. To refine the positions of the main bands in the IR
spectra, isotope-substituted lithium acetylenides were synthesized by using lithium-6 and
euterium, and the IR spectra of the products were recorded. Lithium acetylenide is stable
on standing, apparently because stable complexes are formed between its molecules.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical
Institute) 44,55

SUBMITTED: 25Jun63   ENCL: 00   SUB CODE: OC, GC

NO REF SOV: 009   OTHER: 012

Card 2/2 Ard

SHAPET'KO, N.N.; SERGEYEV, N.M.; PETRIY, O.E.; LALAYEVA, L.V.; MAKHINA, A.A.

Nuclear magnetic resonance spectra of F^{19} in fluoruracil a.a.

Zhur. strukt. khim. 6 no.1:158-159 Ja-F '65.

(MIRA 18:12)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova. Submitted
August 10, 1964.

SIMONOV, A.P.; SHIGORIN, D.N.; ISAREVA, G.V.; TALALAYEVA, T.V.;
KOCHESHKOV, K.A.

Infrared absorption spectra and the structure of some simple
lithium, sodium, and potassium alcoholates. Zhur. prikl. spekt.
3 no. 6:531-537 D '65 (MIRA 19:1)

1. Submitted August 12, 1964.

TALALAYEVA, Ye. V.

Effect of barium oxide on some properties of ferrite. N. A. Smol'kov and E. V. Talalaeva (M.V. Lomonosov State Univ., Moscow). *Fis. Metal. i Metalloved., Akad. Nauk S.S.S.R., Ural. Filial* 1, 417-16(1956).—In prepg. ferrites for industrial use (as mineral magnets), BaO, CaO, and other metallic oxides are often added to the solid soln. Such oxides are themselves not magnetic nor is the solid soln. they form with Fe_3O_4 magnetic. How these addns. affect the magnetic properties of the original ferrite (in this instance, $Ni_8Mg_{(1-8)}Fe_3O_4$) is illustrated by the addn. of 0, 5, 10, 15, and 20 parts by wt. in 100 (the parameter δ being the same in all 5) to prepns. made ceramically by sintering Fe_3O_4, MgO, NiO, and BaO at 1300° for 4 hrs. The magnetic properties measured were: magnetization; initial and max. permeabilities (μ_i and μ_{max}.); magnetostriction; and rotation of the plane of polarization. In all cases the magnetic properties decrease with increasing concn. of BaO.

V. H. Gottschalk

56-6-35/47

AUTHORS: Belov, K. P. , Talalayeva, Ye. V.

TITLE: The Galvanometric Properties of Manganese Ferrite (Gal'vanomagnit-
             nyye svoystva ferrita margantsa)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1957, Vol. 33,
             Nr 6 (12), pp, 1517 - 1519 (USSR)

ABSTRACT: The authors carried out measurements of the temperature dependence
             of the galvanometric effect in a ferrite with 50 % (Mol-%) MnO and
             50 % Fe_2O_3. Such a ferrite did not have too great a resistance and
             on it it was possible to measure the effect in the case of direct
             current in the temperature interval of room temperature up to 350°.
             The ferrite was produced by means of the usual "ceramic" technolo-
             gy from chemically pure oxides. As samples rods of 52 mm length
             and 25 mm^2 cross section were used. On the front surfaces of the
             samples the contacts for current feed were fitted by burning in
             a silver paste. The sample was located in a furnace with bifilar
             winding; the furnace itself was in a magnetizing solenoid. The
             galvanometric effect was measured by the method of the bridge not
             in equilibrium. At each given temperature the electric resistance,
             the galvanometric effect $\Delta R/R$, and the specific magnetization

Card 1/3

The Galvanometric Properties of Manganese Ferrite

56-0-35/47

were measured practically simultaneously. A diagram shows the
curves of the temperature dependence of the longitudinal galvano-
metric effect; these curves were recorded for weak and strong mag-
netic fields. $(\Delta R/R)_{\parallel}$ has negative values and decreases consider-
ably. At Curie point, however, a marked maximum of the galvanome-
tric effect is observed. Further details are given. It is of inter-
est that the longitudinal and the transversal galvanometric effect
have the same sign. However, apart from a negative galvanometric
effect, the authors also discovered a positive component of the
longitudinal effect in manganese ferrite. A diagram, which is attach-
ed, illustrates this effect. The major part of the galvanometric
effect is caused by a paraprocess; its sign is negative, and the
dependence $\Delta R/R$ is rigorously satisfied for it. At lower values
of magnetization a "struggle" between the negative galvanometric
effect and the positive component of the longitudinal effect takes
place; this anomaly is not removed by cooling or repeated heating.
There are 2 figures, and 6 references , 4 of which are Slavic.

Card 2/3

The Galvanometric Properties of Manganese Ferrite   56-6-33/47

ASSOCIATION: Moscow State University
               (Moskovskiy gosudarstvennyy universitet)

SUBMITTED: July 30, 1957

AVAILABLE: Library of Congress

Card 3/3

TALALAYEV, Ye.V.

Artificial induction of epizootic septicemia in the caterpillars
of Dendrolimus sibiricus. Report No.1. Ent. oboz. 36 no.4:845-859
'57.   (MLRA 10:9)

1. Biologo-geograficheskiy nauchno-issledovatel'skiy institut
Irkutskogo gosudarstvennogo universiteta im. A.A. Zhdanova.
              (Forest insects--Biological control)
          (Siberia--Moths)   (Bacteria, Pathogenic)

24(3)

AUTHORS: Belov,K.P., and Talalayeva, Ye.V.   SOV/155-58-2-46/47

TITLE: Temperature Dependence of the Galvanomagnetic Effect and the
            Electric Resistance of   Manganese Ferrite in Poly- and Mono-
            crystalline States (Temperaturnaya zavisimost' gal'vanomagnitnogo
            effekta i elektrosoprotivleniya v ferrite margantsa v poli- i
            monokristallicheskom sostoyaniyakh)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki,
            1958, Nr 2, pp 220-227 (USSR)

ABSTRACT: The comparison of experimentally measured electric resistances of
            poly- and monocrystalline manganese ferrites shows that they have
            the same order of magnitude (S_{polycr} = 200 ohm/cm, S_{monocr} =800 ohm/cm)
            Herefrom it is concluded that the electric resistance of the
            manganese ferrite is determined by the ferrite itself (not by the
            boundary layers between the grains). In the neighborhood of the
            Curie-point the galvanomagnetic effect is influenced strongly by
            the paraprocess; in the neighborhood of the Curie-point the curve

            $\lg \rho \left(\frac{1}{T} \right)$ has a complicated crack with a flat point. The authors

            measured a positive component of the galvanomagnetic longitudinal
            effect unusual for ferrites. The results are compared with those

Card 1/2

Temperature Dependence of the Galvanomagnetic Effect and   SOV/155-58-2-46/47
the Electric Resistance of   Manganese Ferrite in
Poly- and Monocrystalline States

of Komar and Klyushin [Ref 2], Irkin and Turov [Ref 10] and
others. The authors thank A.A.Popova (Institute of Crystallo-
graphy) for giving a crystal.
There are 9 figures, and 11 references, 10 of which are Soviet,
and 1 American.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova
(Moscow State University imeni M.V.Lomonosov)

SUBMITTED: January 15, 1958

Card 2/2

24(5)
Author: Dyakov, I.P., Candidate of Physical-
            Mathematical Sciences

TITLE: Survey of Papers Read by ... at ...
            University at the All-Union Conference on the Physics of Magnetic
            Materials (Obzor dokladov sdelannykh ... na vsesoyunom soveshchanii po fizike magnitnykh ...)

PERIODICAL: Vestnik Moskovskogo Universiteta, ... matematiki, mekhaniki,
            astronomii, fiziki, khimii, ... 1957, Nr ..., pp. ... (USSR)

ABSTRACT: From December 6 - 11, 1957 there took place the fourth Union
            Congress on physics of magnetic materials in Leningrad. (The
            first two meetings took place 1947 and 1953 in Sverdlovsk,
            the third meeting 1956 in Moscow). The congress was organized
            by Academy of Sciences of the USSR, Department of Physical-
            Mathematical Sciences, Scientific Council on Ferromagnetism,
            Problems of Magnetism, Institute for Semiconductors of the
            Academy of Sciences, USSR and Committees for Magnetism. There
            were more than 300 participators. 59 lectures were given.
            Among them the following lectures of the representatives of
            the Moscow State University :
            1. Professor R.V. Telesnin, Yu.P. Irkhin, Lecturer on the
               Velocity of Magnetic Reversal of the Ferromagnetism.
            2. Professor R.V. Telesnin, ..., Aspirant, Assistant
               "On Magnetic Viscosity of Ferrites."
            3. Professor ... ..., Aspirant
               "Effect of Magnetic Viscosity on the Frequency Characteristics
               of ... ferrites."
            4. K.P. Belov, Lecturer "Variations of Structure and Anti-
               ferromagnetic Properties of ..."
            5. N.A. Grabovskiy, Lecturer, S.V. ..., Junior Scientific
               Assistant "Magnetic Properties of Anisotropic Systems"
            6. G.P. Dyakov, Lecturer "Magnetostriction Properties of
               Binary Alloys"
            7. Professor Ye.I. Kondorskiy, L.T. Shalev, Assistant
               "Electric Properties of Ni-In-Ferrites"
            8. K.P. Miryasov, Senior Scientific Assistant, A.P. Dzezaev,
               Aspirant "Magnetic Properties and Structure of Manganese-
               Boron - Alloys"
            9. K.A. Smolkov, Senior Scientific Assistant, S.V. Belov
               "Some Properties of Ferrites"
           10. N.I. Smolkov, Senior Scientific Assistant, Ya.S. Shur, ...
               Lecturer "Properties of ... ..."
           11. S.A. Gasilov ...
           12. Professor K.P. Belov ...
           13. Assistant "Ferrites ...
           14. ...
           15. ...

SOV/70-5-6-13/25

AUTHORS: Belov, K.P., Popova, A.A. and Talalayeva, Ye.V.

TITLE.   The Electrical and Galvanomagnetic Properties of Single
            Crystals of Manganese Ferrite (Elektricheskiye i gal'-
            vanomagnitnyye svoystva monokristallov ferrita margantsa)

PERIODICAL: Kristallografiya, 1958, Vol 3, Nr 6, pp 733-9 (USSR)

ABSTRACT: The temperature dependence of the electrical resistance and
            the longitudinal galvanomagnetic effect in single crystals
            of manganese ferrite have been measured. The temperature
            dependence of the resistance is complicated. Near the
            Curie point on the lines log r (1/T) breaks are
            observed which have a step form. It is supposed that
            these steps arise because at the Curie point crystals of
            manganese ferrite transform to a degenerate electron
            state. It is established that the dependence of the
            longitudinal galvanomagnetic effect on temperature, field
            and magnetisation is analogous to the dependence observed
            in metal ferromagnetics. The crystals of $MnFe_2O_4$ used
            were made by the Verneil process and X-ray and chemical
            analysis were used to establish the orientation and
            texture of the specimens which were rods of about
Card1/3   0.2 m^2 cross-section and 1 cm length. The specific

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The Electrical and Galvanomagnetic Properties of Single Crystals of
Manganese Ferrite

resistances r were of the same order as that of the
polycrystalline material (1 kΩ cm). The conductivity is
associated with the occurrence of ions in two valency
states in alternation in certain directions. The much
smaller conductivity observed here than in the case of
magnetite is a consequence of the presence of
Mn^{+2}, Mn^{+3} and Mn^{+4} ions in the same set of equivalent
positions and the absence of Fe^{+3} ions . A graph of
the conductivity against temperature is given. Log r

against T^{-1} is roughly a straight line but is broken
into regions. Each can be described by $r = A \exp dE/kT$
where dE has a different value for each of six sections,
namely 0.30, 0.26, 0.20, 0.32, 0.50 and 0.32 eV . The
region near the Curie point (near $10^3 /T = 1.8$)
was studied more closely. It is thought that on the
transition from the paramagnetic state to the ferro-
magnetic the semi-conductor passes through a state of
electronic degeneracy (as in a metal) and then becomes
a semi-conductor again. The slope of the line log r(1/T)
Card2/3   should be less in the ferromagnetic state than in the
paramagnetic.

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The Electrical and Galvanomagnetic Properties of Single Crystals of Manganese Ferrite

As in the case of most ferromagnetics, the longitudinal galvanomagnetic effect in the region of technical magnetiaation has a positive sign. With increasing temperature the sign changes to negative at lower and lower temperatures until at $270\ ^{\circ}C$ the sign is always negative. The effect is also plotted out as a function of the square of the specific magnetisation.

There are 10 figures, 1 table and 6 references, 4 of which are Soviet, 1 French and 1 English.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography of the Ac.Sc.USSR) and Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova (University im. M. V. Lomonosov)
SUBMITTED: July 12, 1958

Card 3/3

TALALAYEVA, Ye. V. Cand Phys-Math Sci -- (diss) "Study of the temperature

relationship of magnetic and electric properties of poly- and monocrystals of

ferrites of manganese." Mos, 1959. 10 pp (Mos State Univ im M. V. Lomonosov),

100 copies. Bibliography at end of text (12 titles). (KL, 41-59, 103)

-5-

20120

S/181/61/003/002/016/050
B102/B204

9,4300 (1147, 1158)

AUTHORS: Belov, K. P., Rakhmanov, A. S., and Talalayeva, Ie. V.

TITLE: Measurement of the galvanomagnetic effect in ferrites
              near Curie point

PERIODICAL: Fizika tverdogo tela, v. 3, no. 2, 1961, 436-440

TEXT: When measuring the galvanomagnetic effect, the magnetostriction,
and other phenomena, it is necessary to take the effect produced by
magnetocaloric effect occurring in the adiabatic application of the
magnetic field in the ferromagnetic specimen into account. For the
purpose of excluding the error arising by this effect (which becomes
considerable near Curie point), measurements are not carried out immediate-
ly after the application of the field (adiabatic measurement), but only
some time later, when the temperature equilibrium between specimen and
the surrounding medium has been established (isothermal measurement).
Whereas in metallic ferromagnetics the isothermal conditions are easily
realizable, this presents difficulties in the case of ferromagnetic
semiconductors because of their low thermal conductivity, and when

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2∪120

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Measurement of the galvanomagnetic ...

measuring the galvanomagnetic effect, considerable errors may arise. In the present paper, the conditions occurring in the measurement of the galvanomagnetic effect are investigated, above all the effect produced by the adiabatic temperature increase occurring when applying the field. K. Zaveta assumed that the maximum of the galvanomagnetic effect of the paraprocess near Curie point, which the authors discovered in ferrites, is exclusively a consequence of the effect produced by a magnetocaloric effect. It is now shown that the conclusions drawn by Zaveta are incorrect. The paper by Zaveta (FTT. 2, 106, 1960) is first discussed in detail. For the change in state due to applying the field, Zaveta gave the following

formula: $\Delta R/R = aH^{2/3} + bH$; here the first term makes the contribution of the "true" galvanomagnetic effect, and the second makes the contribution of the "wrong" galvanomagnetic effect. This formula is, however, wrong,

and it ought to read, $\Delta R/R = aH^{2/3} + b'H^{2/3}$, because all even effects

near the Curie point depend in the same manner on H (viz. $\sim H^{2/3}$). From this wrong formula there result also the wrong conclusions drawn by Zaveta. For the purpose of being able to estimate the effect

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Measurement of the galvanomagnetic ...   S/181/61/003/002/018/050
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produced by the magnetocaloric effect, it is necessary to compare a and b'. The sum of the coefficients (a+b') may be determined from the measurements of $\Delta R/R = f(H^{2/3})$. b' (which Zaveta calls b), is proved to be wrongly determined by Zaveta. The method he used is not at all suited for determining b'. Here, the equations $\Delta T = -\frac{T}{C_H}\left(\frac{\partial\sigma}{\partial T}\right)_H \Delta H$ and $\Delta R/R = -\epsilon\,\Delta T/k^{2}$ are used for calculating the "wrong" galvano-magnetic effect. Herefrom, $(\Delta R/R)_{T\rightarrow 0} = \frac{\epsilon}{C_H k^{2}}\left(\frac{\partial\sigma}{\partial T}\right)_H \Delta H$ is obtained for the Curie point. (σ - specific magnetization). For Mn ferrite single crystals thus $(\Delta R/R)_C = -0.9\cdot 10^{-4}$ results from experimental determinations of the individual quantities (data obtained by other authors) and $(\Delta R/R)_C = -44.2\cdot 10^{-4}$ is obtained from the authors' own data. Thus, the "wrong" effect is smaller by a multiple than the "true" effect. The "magnetocaloric" temperature increase ΔT at Curie point is found to be 0.07°C and causes a change of 8.3% of the

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Measurement of the galvanomagnetic ...   S/181/61/003/002/018/050
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maximum resistance change $\triangle R$. It follows herefrom that the maximum of the true galvanomagnetic effect of the paraprocess at Curie point actually exists and is not only due to an "adiabatic" increase of resistance. The existence of this maximum is proven also by the existence of breaks in the log $\Psi(1/T)$-curves in the Curie point of these ferrites. It may occur only in such ferrites as have a low activation energy ε. M. A. Krivoglaz and S. A. Rybak are mentioned. There are 7 Soviet-bloc references.

ASSOCIATION   Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova, Fizicheskiy fakul tet (Moscow State University imeni M. V. Lomonosov, Division of Physics)

SUBMITTED: May 10, 1960

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20121

9.4300 (and 1137, 1143)

S/181/61/003/002/019/050
B102/B204

AUTHOR·   Talalayeva, Ye. V.

TITLE: The temperature dependence of the galvanomagnetic effect
               in manganese ferrites

PERIODICAL: Fizika tverdogo tela, v. 3, no. 2, 1961, 441-449

TEXT: Various problems concerning ferrites have up to the present day
not been fully explained, as e.g. the conduction mechanism, the temperature
dependence of resistivity, and the behavior of ferrites within range
of magnetic transition. These problems are not only of theoretical, but
also of practical interest because of the manifold technical applicabilities
of ferrites. A report is given on investigations of the even longitudinal
galvanomagnetic effect of poly- and monocrystalline manganese ferrites.
The investigations are a continuation of preliminary studies. in this
field. The results obtained for mono- and polycrystalline Mn-ferrites
are compared in order to clear the part played by layers. which are
located between the grains. in polycrystalline specimens. Investigations
at temperatures below Curie point (t < θ). The longitudinal

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The temperature dependence of the ...   S/181/61/003/002/019/050
                                                B102/B204

galvanomagnetic effect of polycrystalline Mn-ferrites (50.2 mole% Fe_2O_3 +
+ 49.8 mol.% MnO) was negative at room temperature. At 240°C
(Θ = 288.5°C), a positive component of the longitudinal galvanomagnetic
effect occurred in the case of the curves $\Delta R(H)$ and $\Delta R(\sigma^2)$. Fig. 1
shows these curves. Fig. 2 shows the temperature dependence of the
longitudinal galvanomagnetic effect. and Fig. 3 shows the longitudinal
galvanomagnetic effect of ferrite monocrystals. From the course taken
by these curves the conclusion is drawn that in the magnetization of
Mn-ferrite monocrystals, the rotation of the vector I_s and the paraprocess
play the principal part. The galvanomagnetic effect in the region of
magnetic transformation. On transition to Curie temperature, the effect
produced by the paraprocess upon the galvanomagnetic effect increases;
all specimens showed a well marked maximum of the negative galvanomagnetic
effect. Measurements of the galvanomagnetic effect near Curie point
are rendered difficult by the magnetocaloric temperature increase (in
the case of adiabatic field measurement), the resistance is diminished.
An estimation of the effect produced by the magnetocaloric effect upon

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B102/B204

The temperature dependence of the ...

$\triangle$R-measurement, for fields of maximally 1960 oe at T = θ results in an adiabatic temperature increase of $\triangle T_C$ = 0.070° (monocrystals) and 0.09°C (polycrystals). These values cause a change in the measured $\triangle$R-value in the maximum of about 8% (10% in the case of polycrystals). The maximum of the $\triangle$R(t)-curves thus shows an error of 8-10%, but within the region of Curie temperature this maximum of the galvanomagnetic effect of the paraprocess actually exists. The maxima are shown for different cases in Fig. 5. Fig. 5a shows $\triangle$R/R = f(t) with an external field of 1960 oe (1 - monocrystal. 2 - polycrystal. 3 - polycrystal, obtained in noble gas atmosphere). Fig. 5b shows $\triangle$R(t) for a monocrystal (1) and a polycrystal (2). In the range of Curie temperature the magnetization in the region of the paraprocess is proportional to $H^{1/3}$ and the galvanomagnetic effect is proportional to $H^{2/3}$. Fig. 6 shows $\sigma(H^{1/3})$ and $\triangle$R/R = f(H^{2/3}). The fact that the latter curve does not pass through the origin of coordinates is explained in such a manner that besides the paraprocess near the Curie point, also technical magnetization occurs. Near Curie point in the region of the paraprocess

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The temperature dependence of the ...   S/181/61/003/002/019/050
                                                      B102/B204

the relation $\left(\frac{\Delta R}{R}\right)_{T>\theta} = a_g H^{2/3}$ holds for mono- and polycrystalline

manganese ferrites. a_g was equal to 37, 33 and $34 \cdot 10^{-6}$ $oe^{3/2}$ for

monocrystals. For polycrystals it equalled 30 and $10 \cdot 10^{-6}$ $oe^{3/2}$

respectively (for those obtained in inert-gas atmosphere). In the region

above Curie temperature, the galvanomagnetic effect in the region of the

paraprocess is a quadratic function of field strength both for mono-

and for polycrystalline manganese ferrites. The results indicate that

the layers between the single crystallites in the specimens under

investigation produce no essential effect upon the rules of the

galvanomagnetic effect in the region of the paraprocess. The authors

thank Professor K. P. Belov for his interest and advice, as well as

A. A. Popova for placing the monocrystals at their disposal. There

are 7 figures, 1 table, and 18 references. 14 Soviet-bloc and

4 non-Soviet-bloc.

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The temperature dependence of the ...

Fig. 2

Рис. 2. Температурная зависимость продольного гальваномагнитного эффекта для поликристаллического образца № 9.

$t = 211.8°$ (1), 240.0° (2) 264.0° (3), 278.3° (4), 283.6° (5), 288.3° (6), 293.6° (7); t в °C.

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The temperature dependence of the ...

$\sigma_1^2 (ec \cdot cm^3 \cdot з -1)^2$

5000

$\sigma_1^2 (ec \cdot cm^3 \cdot з -1)^2$

3000

2000

1000

5

4

3

1 2

ΔR_{j2}

20

10

0

-10

-20

$-\Delta R_{j2}$

$\sigma_1^2 (ec \cdot cm^3 \cdot з -1)^2$

400

300

200

100

6

5

4

3

2

$\Delta R_\Omega \cdot 10^2$

0

-50

-100

-150

-200

$-\Delta R_\Omega \cdot 10^2$
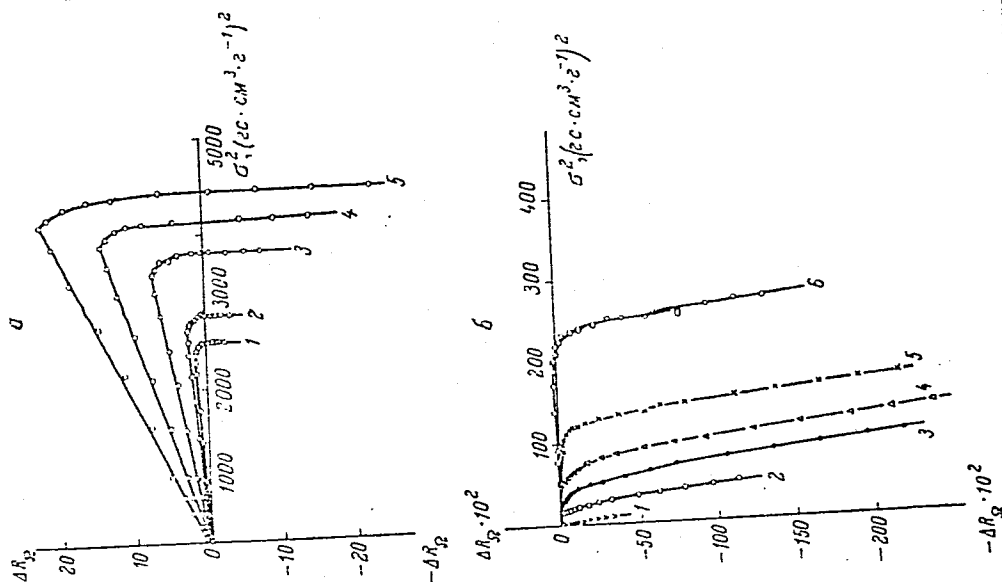
Рис. 4. Температурная зависимость продольного гальвано-
магнитного эффекта для монокристалла Mn феррита.
$t = 132.8°$ (1), 116° (2), 79.6° (3), 59.1 (4), 45.3 (5); 6: $t = 273.3°$ (1),
265.2° (2), 262.0° (3), 260.8° (4), 259.2° (5), 256.4° (6); t в °C.

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The temperature dependence of the ...

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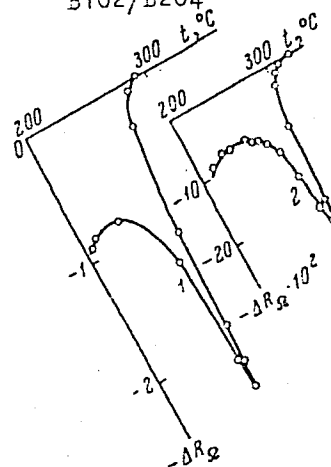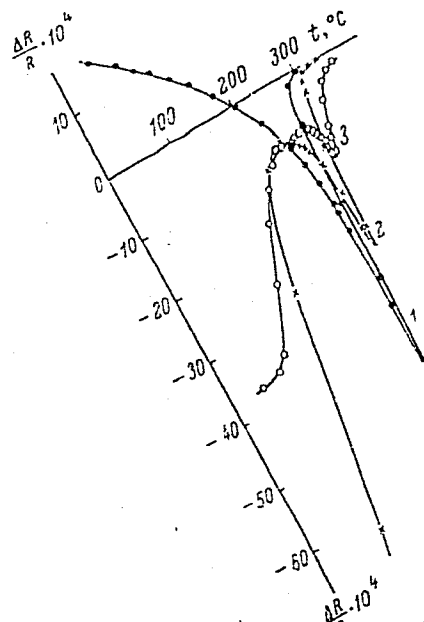
Card 8/9

Fig 5a

Fig 5b

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The temperature dependence of the ...

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Legend to Fig. 6: $\sigma(H^{1/3})$
for polycrystal (288.3°C) -
curve 1; for monocrystal at
260.8°C - curve 3.

$\Delta R/R = f(H^{2/3})$ with t = 9
for the polycrystal (curve 1),
obtained for the polycrystals
at 300.4°C (curve 2) in a
noble gas atmosphere, and for
monocrystals at 260.8°C
(curve 3), at 269.6°C (curve 4)
and 204.2°C (curve 5).
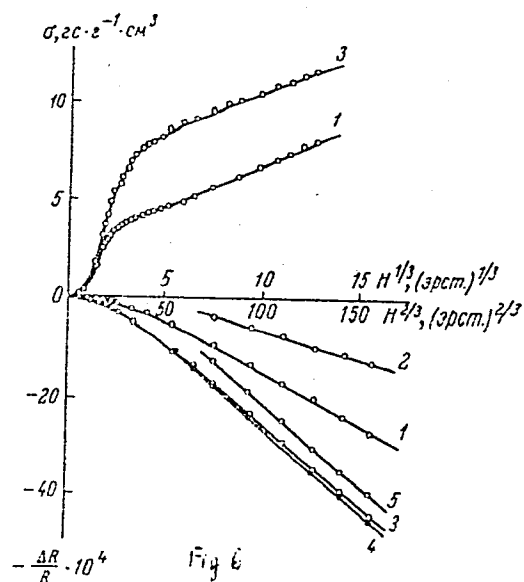
Card 9/9

S/0188/64/000/002/0082/0084 BR

ACCESSION NR: AP4033639

AUTHOR: Talalayeva, Ye. V.; Chernikova, L. A.; Galkina, O. S.

TITLE: Electrical resistance of gadolinium films and massive specimens in the temperature range 2-290K

SOURCE: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 2, 1964, 82-84

TOPIC TAGS: magnetic phase transition, Curie point, molecular physics, gadolinium, gadolinium electrical resistance, rare earth

ABSTRACT: The rare earth metals of the yttrium subgroup have two characteristic temperatures, Θ_1 and Θ_2, corresponding to two magnetic phase transitions. Below Θ_1 temperatures these metals are in a ferromagnetic state, and above (to Θ_2) -- in an antiferromagnetic state with a helicoid or similar structure. The temperature Θ_2 is the Curie point. Until recently, however, it had not been established whether gadolinium (a member of the yttrium subgroup) has a Θ_1 transition. In this paper, the authors investigate the temperature dependence of the electrical resistance of massive gadolinium and its films for the purpose of determining the influence of the Θ_1 transition on these curves.

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ACCESSION NR: AP4033639

Electrical resistance was measured by the ordinary potentiometric method. Between 2 and 25K temperature was measured with a gas thermometer and above 25K with a copper-constantan thermocouple. The massive specimen of Gd (purity 99.8%) was 15.7 mm long and had a cross section of 0.47 mm^2. Figure 1 of the Enclosure shows the dependence $R_T/R_{\Theta 2}$ of the massive specimen of Gd on temperature (where R_T is resistance at a particular temperature, $R_{\Theta 2}$ is resistance at the Curie temperature). At a temperature $\Theta_1 = 210$K there is a small knee, with another near the Curie point of 290.5K. Figure 2 of the Enclosure shows the temperature dependence of the electrical resistance of three fine films (thicknesses of 70, 100 and 180Å) during the heating of newly condensed films from 4.2 to 280K (curves 1, 2, 3) and during cooling to the initial temperature of 4.2K after being held at a temperature of 300K for 40 hours. Figure 3 of the Enclosure shows curves similar to those in Figure 2 for two thick films (380 and 500Å). "In conclusion the authors deeply thank Professor A. I. Shal'nikov for valuable advice and assistance in the work and Professors K. P. Belov and Ye. I. Kondorskiy for discussion of the results". Orig. art. has: 3 figures.

ASSOCIATION: Kafedra molekulyarnoy fiziki, Moskovskiy universitet (Department of Molecular Physics, Moscow University)

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L 51405-65   EWT(1)   IJP(c)

UR/0181/65/007/004/0981/0984

ACCESSION NR: AP5010698

AUTHOR: Belov, K. P.; Talalayeva, Ye. V.; Kudryavtseva, T. V.

TITLE: Thermomagnetic and galvanomagnetic effect in manganese ferrite

SOURCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 981-984

TOPIC TAGS: ferrite, manganese ferrite, thermomagnetic effect, galvanomagnetic effect, magnetic ordering

ABSTRACT: A simultaneous investigation was made of the even thermomagnetic and galvanomagnetic effects in the same sample of single-crystal manganese ferrite. Two samples were tested, one containing 6.5% excess of manganese, and the other containing an excess of iron with composition $Mn_{0.87}Fe_{2.13}O_4$. The thermomagnetic effect was measured by a null method using a photocompensation microvolt-ampere-Weber meter F-18. The galvanomagnetic effect was measured by a bridge method, and the magnetization by a ballistic method. The results showed that the thermomag-netic and galvanomagnetic effects have different behaviors. The thermomagnetic ef-fect has a maximum growth in the region of weak fields (in displacement and rota-

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L 51405-65

ACCESSION NR: AP501C698

tion processes), whereas the galvanomagnetic effect has the maximum growth in
strong fields (in the region of the para-process). The difference is attributed
to the different mechanisms whereby the magnetic ordering (domain and spin) in the
ferrite acts on the thermoelectric power and on the electric conductivity.   Orig.
art. has: 4 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow
State University)

SUBMITTED: 22Jul64   ENCL: OO   SUB CODE: SS, EM

NR REF SOV: OO9   OTHER: OOO

Card 2/2

TALALAYEVSKIY, G.V.

Maximum discharge rates in the ravines on eastern slopes of
the Yergeni Hills. Meteor. i gidrol. no.2:40-42 F '62.

(MIRA 15:2)

(Yergeni Hills--Runoff)

TALALAYEVSKIY, G. V.

Quantitative estimate of the surface erosions of soils on the
eastern slopes of the Yergeni Hills. Meteor. i gidrol. no.1:
44-46 Ja '63.   (MIRA 16:1)

1. Severo-Kavkazskoye upravleniye gidrometeosluzhby.

(Yergeni Hills—Erosion)

TALALOV, I.I., inzh.

Determining currents of damping windings in salient-pole
synchronous machines. Sbor.nauch.trud IEI   no.8:319-335   '58.
                                        (MIRA 13:4)
        (Electric motors, Synchronous)

TALALOV, I. I., Candidate Tech Sci (diss) -- "Investigation of the distribution

of currents in the cores of the damping coils of synchronous machines". Moscow,

1959. 15 pp (Min Higher Educ USSR, All-Union Correspondence Polytech Inst,

Chair of Electrical Machines and Apparatus), 200 copies (KL, No 24, 1959, 141)

TELAAT, M.Ye. [Talaat, M.E.]; TALALOV, I.I., inzh. [translator];
SERGEYEV, P.S., red.; LARIONOV, G.Ye., tekhn.red.

[New approach to the calculation of synchronous machine
reactances] Novyi podkhod k opredeleniiu induktivnykh
soprotivlenii sinkhronnoi mashiny. Moskva, Gos.energ.izd-vo
1959. 95 p. Translated from the English.   (MIRA 13:7)
      (Electric machinery, Synchronous)

TALALOV, I.I., inzh.

Damper winding currents in asynchronous operation of
salient-pole synchronous machines. Izv. vys. ucheb. zav.;
energ. 2 no.7:22-32 Jl '59.   (MIRA 13:1)

1.Ivanovskiy energeticheskiy institut imeni V.I. Lenina.
            (Electric motors, Synchronous)

TALALOV, I.I., kand.tekhn.nauk

Circuit transformations in the analysis of electric machinery.
Elektrichestvo no.4:34-38 Ap '61.   (MIRA 14:8)

1. Ivanovskiy energeticheskiy institut imeni Lenina.
        (Electric machinery)

TAIAL..., V.A.: PVAL'YEV, I.M.

    Glass-ceramic raw material from granites. Razved. i okh. nedr
    29 no.11:19-22 N '63.   (MIRA 17:12)

    1. Samarkandskaya geologorazvedochnaya ekspeditsiya.

TALALOV, Ye.A., aspirant

Herbicides for controlling weeds in onion and carrot fields.
Zashch.rast.ot vred.i bol. 5 no.2:23-25 F '60.   (MIRA 15:12)

1. Tashkentskiy sel'skokhozyaystvennyy institut.
        (Uzbekistan—Onions)   (Uzbekistan—Carrots)
                    (Herbicides)

TALALOVA, A. I.

TALALOVA, A. I. -- "Certain Indexes of the Reactivity of the Organism in
Pneumonia of Young Children." Ivanovo, 1955. (Dissertation for the
Degree of Candidate in Medical Sciences).

So.: Knizhnaya Letopis', No. 8, 1956.

USSR/Zooparasitology - Ticks and Insects - Carriers of Disease   G.
          Stimuli. Insects.

Abs Jour   :   Ref Zhur - Biol., No 11, 1958, 48231

Author   :   Tarvit-Gontar', I.A., Talalova, N.P.

Inst   :   Kirghiz Scientific Research Institute of Epidemiology,
                Microbiology and Hygiene.

Title   :   The Mosquitoes of Kirghizia and Their Comparative Epide-
                miological Significance.

Orig Pub   :   Sb. Tr. Kirg. n.-i. in-ta epidemiol., mikrobiol. i gigieny,
                1956, vyp. 2, 90-96.

Abstract   :   No abstract.

Card 1/1

SMIRNOV, A.D.; TALALUYEVA, A.N. (Leningrad).

Growing crystals of substances insoluble in water by the diffusion
method. Khim. v shkole 13 no.3:45-46 My-Je '58.   (MIRA 11:5)
                    (Crystallization)   (Lead chloride)

TALALYAN, A. A.

TALALYAN, A. A.: "The convergence of almost universally orthogonal
                 series." Acad Sci USSR. Mathematics Inst imeni
                 V. A. Steklov. Moscow, 1956. (DISSERTATION FOR
                 THE DEGREE OF CANDIDATE IN PHYSICOMATHEMATICAL
                 SCIENCE)

So.: Knizhnaya letopis' No 15, 1956, Moscow

Transactions of the Third All-union Mathematical Congress, Moscow, Jun-Jul '56,
Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

Talalyan, A. A. (Yerevan). On the Convergence Almost
Everywhere of Orthogonal Series.   105

SUBJECT   USSR/MATHEMATICS/Functional analysis   CARD 1/1   PG - 535
AUTHOR   TALALJAN, A.A.
TITLE   On the convergence of orthogonal series.
PERIODICAL   Doklady Akad.Nauk 110, 515-516 (1956)
               reviewed 1/1957

Joining the investigations of Rademacher and Men'šov, the author announces some
new results without proof:
1. If $\{\varphi_n(x)\}$ is a complete normalized orthogonal system defined on $[0,1]$,
   then for every measurable function $f(x)$ a series $\sum_{n=1}^{\infty} a_n \varphi_n(x)$ can be
   determined converging to $f(x)$ with respect to the measure, where $\lim_{n\to\infty} a_n = 0$.

2. If $\{\varphi_n(x)\}$ is a complete normalized orthogonal system defined on $[0,1]$,
   then there exists a series $\sum_{n=1}^{\infty} a_n \varphi_n(x)$ converging to zero with respect to
   the measure, where not all a_n are equal to zero and $\lim_{n\to\infty} a_n = 0$.

INSTITUTION: Math.Inst. Acad.Sci. USSR.

TALALYAN, A.A.

Convergence in measure of series based on L_p space loci. Izv. AN Arm. SSR. Ser. fiz.-mat. nauk 10 no.1:31-68 '57.   (MIRA 10:6)

1. Institut matematiki i mekhaniki Akademii nauk Armyanskoy SSR.
   (Series)   (Sets, Theory of)   (Functional analysis)

TALALYAN, A.A.; KHACHATARYAN, I.O.

Inverse problem of best approximations. Iav. AN Arm. SSR. fiz.-mat.
nauk 11 no.2:83-87 '58.   (MIRA 11:6)

1.Institut matematiki i mekhaniki AN ArmSSR.
                    (Functions, Continuous)

TALALYAN, A.A.

Integral representation of measurable functions with kernels
originating unitary transformations of the space $L_2(0, \infty)$.
Dokl. AN Arm. SSR 26 no.5:257-261 '58.   (MIRA 11:7)

1.Institut matematiki i mekhaniki AN ArmSSR. Predstavleno M.M.
Dzhrbashyanom.
                    (Functions) (Transformations (Mathematics))

16(1)

SOV/22-12-1-2/9

AUTHOR: Talalyan, A.A.

TITLE: On Universal Orthogonal Series (Ob universal'nykh ortogonal'nykh ryadakh)

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR, Seriya fiziko-matematicheskikh nauk, 1959, Vol 12, Nr 1, pp 27-42 (USSR)

ABSTRACT: The author uses notions and denotations of D.Ye. Men'shov [Ref 1,2] and proves a generalization of a result of Men'shov. Theorem: Let $\left\{ \varphi_n(x) \right\}$ be a complete orthogonal normed system of functions on $[a,b]$. For arbitrary measurable functions $F(x)$ and $G(x)$ on $[a,b]$ with $G(x) \leqslant F(x)$ almost everywhere on $[a,b]$, there exists an orthogonal series

(1) $$\sum_{n=1}^{\infty} a_n \varphi_n(x)$$

with the following properties :

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On.Universal Orthogonal Series

1.) $F(x)$ and $G(x)$ are on $[a,b]$ the upper and lower bound of (1) with respect to measure (see /~Ref 1 7) .

2.) To every measurable function $\psi(\bar{x})$, $G(\bar{x}) \le \psi(x) \le F(x)$, almost everywhere defined on $[a,b]$, there exists a sequence of partial sums of (1) which converges to $\psi(x)$ almost everywhere on $[a,b]$.

3.) $\lim\limits_{n \to \infty} a_n = 0$.

The author mentions Yegorov.

There are 5 Soviet references.

ASSOCIATION: Institut matematiki i mekhaniki AN Armyanskoy SSR (Institute of Mathematics and Mechanics, AS Armenian SSR)

SUBMITTED: May 16, 1958

Card 2/2

16(1)

AUTHOR: Talalyan, A.A.   SOV/22-12-2-1/8

TITLE: On the Representation of Measurable Functions by Series

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko-
              matematicheskikh nauk, 1959, Vol 12, Nr 2, pp 3 - 20 (USSR)

ABSTRACT: Let $\{f_n(x)\}$ be a sequence of functions defined on $[a,b]$
              which are almost everywhere finite and measurable. The se-
              quence $\{f_n(x)\}$ is called complete with respect to measure,
              if to every measurable function $f(x)$ defined on $[a,b]$ there
              exists a sequence of finite linear combinations of the
              $f_n(x)$ which converges on $[a,b]$ to $f(x)$ with respect to
              measure. The system $\{f_n(x)\}$ is called asymptotically or-
              thogonal, if to every $\varepsilon > 0$ there exists an N so that for
              all $n > N$, $m > N$, $n \neq m$ the functions $f_n(x)$ and $f_m(x)$ are
              orthogonal on a set $E_{n,m}$, where mes $E_{m,n} > b-a-\varepsilon$.
              Theorem: Let $\{f_n(z)\}$ be complete in the sense of measure

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On the Representation of Measurable Functions by Series   SOV/22-12-2-1/8

convergence and let the $f_n(z)$ be linearly independent on an arbitrary measurable set E , mes $E > a_0 > 0$, where $a_0 < b$. a is a fixed number. Then there exists a sequence $\left\{ \varphi_n(x) \right\}$ with the properties

1. $\varphi_n(x) = \sum_{k=1}^{n} a_{n,k} f_k(x)$, $f_n(x) = \sum_{k=1}^{n} b_{n,k} \varphi_k(x)$, $n=1,2,..$

2. $\left\{ \varphi_n(x) \right\}$ is asymptotically orthogonal

3. To every measurable function $f(x)$ defined on $[a,b]$ there exists a series $\sum_{n=1}^{\infty} a_n \varphi_n(x)$ which converges on $[a,b]$ to

$f(x)$ with respect to measure.
The proof of the theorem is based on former results of the author $/$ Ref 1,2$_$/.

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· On the Representation of Measurable Functions by   SOV/22-12-2-1/8
Series

        There are 2 Soviet references.

ASSOCIATION: Institut matematiki i mekhaniki AN Armyanskoy SSR
        (Institute for Mathematics and Mechanics, AS Armyanskaya
        SSR)

SUBMITTED: February, 17, 1958

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SOV/22-12-3-1/9

6(1)

AUTHOR: Talalyan, A.A.

TITLE: Representation of an Arbitrary Measurable Function by Series in Terms of Functions of the System of Schauder

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR. Seriya fiziko-matematicheskikh nauk, 1959, Vol 12, Nr 3, pp 3-14 (USSR)

ABSTRACT: Let $W_1 = a$, $W_2 = b$, $a < b$, and $\{W_i\}$, $i > 2$, be the sequence of all rational numbers of the interval (a,b). Let $\varphi_1(W_1) = 1$, $\varphi_1(W_2) = 0$, $\varphi_1(t)$ be linear on $[a,b]$. Let $\varphi_2(W_1) = 0$, $\varphi_2(W_2) = 1$, $\varphi_2(t)$ be linear on $[a,b]$. Let (W_i, W_k) be the interval containing W_n. Let $\varphi_n(t) = 0$ outside of $[W_i, W_k]$, $\varphi_n(W_n) = 1$ and let $\varphi_n(t)$ be linear on (W_i, W_n) and (W_n, W_k).

Theorem 1: For every measurable function $f(x)$ defined almost everywhere on $[a,b]$ there exists a series $\sum_{n=1}^{\infty} c_n \varphi_n(x)$, $\lim_{n \to \infty} c_n = 0$, converging to $f(x)$ almost everywhere on $[a,b]$.

Theorem 2: Given an arbitrary complete orthogonally normed system of functions $\{P_n(x)\}$ defined on $[a,b]$. An orthogonally normed

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Representation of an Arbitrary Measurable Function   SOV/22-12-3-1/9
by Series in Terms of Functions of the System of Schauder

system $\left\{\phi_n(x)\right\}$ with the following properties can be found:

a) every $\phi_n(x)$ is a finite linear combination of the $\varphi_n(x)$;

b) to every measurable function $f(x)$ defined on $[a,b]$ there exists

a series $\sum_{n=1}^{\infty} a_n \phi_n(x)$ converging to $f(x)$ almost everywhere on

$[a,b]$.

In both theorems $f(x)$ may be equal to $+\infty$ or $-\infty$ on an interval
of measure different from zero.

There are 3 references, 2 of which are Soviet, and 1 American.

ASSOCIATION: Institut matematiki i mekhaniki AN Armyanskoy SSR. Yerevanskiy
gosudarstvennyy universitet (Institute of Mathematics, AS
Armenian SSR. Yerevan State University)

SUBMITTED: July 4, 1958

Card 2/2

TALALYAN, A.A.

Sequences, universal with regard to permutations, making up the bases
of space L_p. Dokl. AN Arm.SSR 28 no.4:145-150 '59.   (MIRA 12:11)

1. Institut matematiki i mekhaniki AN ArmSSR. Predstavleno akademikom
AN ArmSSR M.M. Dzhrbashyanom.
                              (Series, Infinite)

16( )
AUTHOR.   Talalyan, A.A.   S07/20-124-5-7/66

TITLE,   Summation of Series in Terms of Bases of the Space
                 L_p[a,b], p>.. According to the Methods of Cesaro (Summiro-
                 vaniye ryadov po bazisam prostranstva L_p[a,b], p>.. metodami
                 Cesaro)

PERIODICAL.   Doklady Akademii nauk SSSR, 1959, Vol.124, Nr 5, pp 987-989 (USSR)

ABSTRACT: Former results of D.Ye. Men'shov [Ref 1,2] are generalized.
                 The elements of the matrix $\|a_{ij}\|$ are to satisfy the conditions:

                 1.) $\sum_{k=1}^{\infty} a_{ik}$ converges absolutely for all sufficiently large i,

                 $\lim_{i\to\infty} \sum_{k=1}^{\infty} a_{ik} = 1$ 2.) For all sufficiently large i it holds

                 $\sum_{k=1}^{\infty} |a_{ik}| = M$ M does not depend on i. 3.) $\lim_{i\to\infty} \max_{1\le k<\infty} |a_{ik}| = 0.$

Card 1/3   The series $\sum u_n$ is T-summable if the series $\sum_{k=1}^{\infty} a_{ik} \sum_{n=1}^{k} u_n$

Summation of Series in Terms of Bases of the
Space $L_p[a,b]$, $p>1$ According to the Methods of Cesaro   SOV/20-124-5-7/62

is convergent for all sufficiently large i, and if the sum
tends to a finite limit value for i→∞. All the Cesaro
methods of positive order are T'-methods.
Theorem : Let $\{\varphi_n(x)\}$ be a normed basis of $L_p(a,b)$, $p>1$, and
$f(x)$ an almost everywhere finite measurable function on $[a,b]$,
$\{T_n'\}$ a denumerable sequence of T'-methods. Then in the system
$\{\varphi_n(x)\}$ the order of the terms can be altered so that for

the new system $\{\varphi_{\nu_n}(x)\}$ there is a series $\sum_{n=1}^{\infty} c_n \varphi_{\nu_n}(x)$

which is summable with the sum $f(x)$ with every T_n' method
$(n=1,2,\dots)$; here it is $\lim_{n\to\infty} c_n = 0$.

Men'shov proved the theorem under the assumption of the ortho-
gonality of $\{\varphi_n(x)\}$, without dependence of the system

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Summation of Series in Terms of Bases of the   SOV/20- 24 5-7/62
Space $L_p[a,b]$, p> ? According to the Methods of Cesaro

$$\left\{ P_n(x) \right\} \text{ on } f(x) \text{ and under the assumption } \sum c_n^2 < \infty ,$$

A further theorem following from that one mentioned above and
an auxiliary theorem are given.
There are 4 references, 3 of which are Soviet, and 1 French.

ASSOCIATION: Institut matematiki i mekhaniki AN Arm SSR (Institute of
Mathematics and Mechanics, AS Arm. SSR)

PRESENTED: October 31, 1958, by A.N. Kolmogorov, Academician

SUBMITTED: October 21, 1957

Card 3/3

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S/022/60/013/002/010/011 XX
C111/C222

AUTHOR: Talalyan, A. A.

TITLE: On the Convergence and Summability Almost Everywhere of General Orthogonal Series ψ

PERIODICAL: Izvestiya Akademii nauk Armyanskoy SSR, Seriya fiziko-matematicheskikh nauk, Vol. 13, No. 2, pp. 31-61 , 1960

TEXT: The author joins well-known investigations of D. Ye. Men'shov and obtains the following principal results: Theorem I : There exists a complete orthogonally normed system $\{\varphi_n(x)\}$ of functions defined on $[a,b]$ so that the development of a certain $f(x) \in L_2$ $[a,b]$ with respect to this system diverges almost everywhere, that however, for every measurable $F(x)$ there exists a series $\sum_{n=1}^{\infty} a_n \varphi_n(x)$ converging to $F(x)$ almost everywhere on $[a,b]$. Here $F(x)$ may become $+\infty$ or $-\infty$ on a set with a positive measure. - Theorem II : Given a countable set of complete orthogonally normed systems $\{\varphi_k^{(n)}(x)\}$, $n = 1, 2, \cdots$ on $[a,b]$. Then there exists a linear regular method the matrix $\|a_{ik}\|$ of which consists of zeros and unities and which has the property that for every measurable function $f(x)$ defined on $[a,b]$ and for each of the above systems there

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Everywhere of General Orthogonal Series   C111/C222

exists a series $\sum_{k=1}^{\infty} a_k^{(n)} \varphi_k^{(n)}(x)$ being summable to $f(x)$ almost everywhere on $[a,b]$ according to the method T. - Theorem III. Let $\{\varphi_n(x)\}$ be a normed base of the space $L_p[a,b]$, $p > 1$ and $f(x)$ be an arbitrary measurable function on $[a,b]$. Then in $\{\varphi_n(x)\}$ the functions can be altered so that for the new system $\{\psi_{\nu_n}(x)\}$ there exists a series $\sum_{n=1}^{\infty} c_n \psi_{\nu_n}(x)$ being summable with the value $f(x)$ almost everywhere with respect to all Cesaro-methods of positive order. Theorem I follows from theorem 1 : Let the complete orthogonally normed system $\{\varphi_n(x)\}$ on $[a,b]$ have the property that for a sequence $\{a_k\}$, where

(1.1) $\sum_{k=1}^{\infty} a_k^2 < +\infty$,

the series

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On the Convergence and Summability Almost
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which the series

$$(2.1) \qquad \sum_{n=1}^{\infty} f_n(x)$$

of functions measurable almost everywhere, defined on $[a,b]$ is assumed to be $\cancel{X}$
universal and where it is shown that if there exists a subsequence $\left\{ f_{k_j}(x) \right\}$
so that

$$(2.4) \qquad \lim_{i \to \infty} f_{k_i}(x) = 0$$

holds almost everywhere on $[a,b]$, then the terms of (2.1) can be altered for

every measurable $f(x)$ so that the new series $\displaystyle\sum_{k=1}^{\infty} f_{\nu_k}(x)$ is summable to $f(x)$

almost everywhere on $[a,b]$ according to all Cesaro-methods of positive order.
For the proof of this theorem the T' - summation methods of (Ref. 6) are used;
furthermore the author's results (Ref. 7).
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On the Convergence and Summability Almost
Everywhere of General Orthogonal Series

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C111/C222

There are 7 Soviet references.

[Abstracter's note : (Ref. 5) is a paper of A.A. Talalyan in Izvestiya
Akademii nauk Armyanskoy SSR. Seriya fiziko-matematicheskikh nauk, 1957,
Vol. 10, No. 3. (Ref. 6) is a paper of D.Ye. Men'shov in Bull.Soc. Math.
France, 1936, Vol. 64, pp. 147-170. (Ref. 7) is a paper of A.A. Talalyan in
Doklady Akademii nauk SSSR, 1959, Vol. 28, No. 4]

ASSOCIATION: Institut Matematiki i Mekhaniki AN Armyanskoy SSR (Institute
              of Mathematics and Mechanics of the Academy of Sciences
              Armyanskaya SSR)

SUBMITTED: January 12, 1960

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C111/C222

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AUTHOR: Talalyan, A. A.

TITLE The Representation of Measurable Functions by Series

PERIODICAL Uspekhi matematicheskikh nauk, 1960, Vol. 15, No. 5, pp. 77-141

TEXT The most essential part of the paper consists in the investigation of the question. Let $\{\varphi_n(x)\}$ be a base in the $L_p[a,b]$ and $f(x)$ be a measurable function defined almost everywhere on $[a,b]$; does there exist a series

(2) $\sum_{n=1}^{\infty} a_n \varphi_n(x)$

converging to $f(x)$ almost everywhere (or with respect to the measure)? In the case of the measure convergence the author gave a final result in (Ref. 12): For every normed base $\{\varphi_n(x)\}$ of the space $L_p[a,b]$, $p \geqslant 1$, and every measurable function $f(x)$ defined almost everywhere on $[a,b]$ there exists a series (2) with coefficients tending to zero which converges to $f(x)$ with respect to the measure on $[a,b]$. In the case of the convergence almost everywhere only partial results are given. Extending the above question, the author investigates which sequences $f_n(x)$ (beside of the

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The Representation of Measurable Functions by Series

bases of the L_p) have the property that every measurable function $f(x)$ is representable in the form of the series $\sum a_n f_n(x)$ which converges to $f(x)$.

The present paper is a complete representation of the results obtained in the mentioned directions as well as on the domain of similar problems, where especially results of the author (Ref.12,20,25), of P.L.Ul'yanov (Ref.15, 24), of D.Ye.Men'shov (Ref.5,6,7,11,13,21) and N.K.Bari are given. There are 12 definitions, 21 theorems and 3 lemmas. Contents: Introduction. § 1. Definitions and auxiliary theorems. § 2. Proof of the principal lemmas. § 3. Representation of measurable functions by series with respect to bases of the space L_p. § 4. Zero-series. § 5. Representation of measurable functions by series according to the system of Haar. § 6. Systems of functions complete in the sense of the measure convergence. § 7. Representation of measurable functions by series in terms of systems complete in the sense of the measure convergence. § 8. Convergence to $+\infty$ of

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The Representation of Measurable Functions by Series

orthogonal series. § 9. Universal series. § 10. Unsolved problems.
References.
The author mentions: N.N.Luzin, A.N.Kolmogorov, I.I.Privalov, Yu.B.Ger-
meyer, Yegorov and V.Ya.Kozlov. There are 25 references: 15 Soviet, 6
Polish, 2 French and 2 American.

SUBMITTED: September 16, 1959

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C 111/ C 333

AUTHOR: Talalyan, A. A.

TITLE: On Series Which are Universal With Respect to Permutations

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya matematicheskaya,
1960, Vol. 24, No. 4, pp. 567-604

TEXT: Let $\{f_n(x)\}$ be a sequence of almost everywhere finite measurable functions defined on $[0,1]$. The series

$$(1) \qquad \sum_{n=1}^{\infty} f_n(x)$$

is called universal (in the usual sense), if to every measurable function f(x) defined on $[0,1]$ there exists a sequence of increasing natural numbers $\{n_k\}$, so that

$$(2) \qquad \lim_{k \to \infty} S_{n_k}(x) = f(x)$$

almost everywhere on $[0,1]$, where

$$(3) \qquad S_n(x) = \sum_{i=1}^{n} f_i(x) \qquad (n = 1,2,\ldots,)$$

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C 111/ C 333

On Series Which are Universal With Respect to Permutations

Definition 1. The series (1) of almost everywhere finite measurable functions is called universal with respect to permutations in the class of all measurable functions in the sense of convergence almost everywhere (in the sense of convergence in measurable, in the sense of summability almost everywhere by the linear method T), if the terms of the series (1) can be transposed for every measurable $f(x)$ so that the new series

$$(4) \quad \sum_{k=1}^{\infty} f_{\nu_k}(x)$$

converges to the function $f(x)$ almost everywhere on $[0,1]$ (converges in measure on $[0,1]$, is summable with the method T almost everywhere on $[0,1]$).

Definition 2: The series (1) of almost everywhere finite measurable functions is called universal with respect to subseries in the class of all measurable functions in the sense of convergence almost everywhere (in the sense of convergence in measure, in the sense of

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On Series Which are Universal With Respect to Permutations

summability almost everywhere by the linear method T), if to every
measurable $f(x)$ a subseries

$$(5) \quad \sum_{k=1}^{\infty} f_{n_k}(x) \quad (n_1 < n_2 < \ldots < n_k < \ldots)$$

can be chosen from (1) which converges to $f(x)$ almost everywhere on
$[0,1]$ (converges in measure, is summable almost everywhere by the
method T).

Theorem 1: Let $\left\{\varphi_n(x)\right\}$ be a normed base in L_p $[0,1]$, $p > 1$. Then
there exists a series

$$(1) \quad \sum_{n=1}^{\infty} a_n \varphi_n(x) \quad (a_n \text{ real}), \text{ where}$$

$$(2) \quad \lim_{n \to \infty} a_n = 0$$

with the property: For every measurable $f(x)$ defined on $[0,1]$ the
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On Series Which are Universal With Respect to Permutations

terms of (1) can be permuted so that the new series

$$\sum_{k=1}^{\infty} a_{\nu_k} \varphi_{\nu_k}(x)$$

converges in measure on $\left[0,1\right]$ to $f(x)$.

Theorem 2: Let $\left\{\varphi_n(x)\right\}$ be a Haar orthogonal normed system. A series

(1) $$\sum_{n=1}^{\infty} a_n \varphi_n(x)$$

exists so that for every almost everywhere finite measurable function $f(x)$ defined on $\left[0,1\right]$ the series

(2) $$\sum_{k=1}^{\infty} a_{n_k} \varphi_{n_k}(x) \quad , \quad n_1 < n_2 < \dots < n_k < \dots$$

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On Series Which are Universal With Respect to Permutations

converges to $f(x)$ almost everywhere on $[0,1]$.

Theorem 3: If the series

$$\sum_{n=1}^{\infty} u_n(x)$$

where $u_n(x)$ are almost everywhere finite measurable functions de-
fined on $[0,1]$, is universal in the sense of convergence in measure
with respect to permutations, then the terms of this series can be
permuted so that the new series

$$\sum_{k=1}^{\infty} u_{v_K}(x)$$

is universal in the usual sense.

Theorem 4: Let a Cesaro method of positive order be given. If

$$\sum_{n=1}^{\infty} f_n(x),$$

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On Series Which are Universal With Respect to Permutations

where $f_n(x)$ are almost everywhere finite measurable functions
defined on $[0,1]$, is universal in the usual sense, and if
$\lim_{k \to \infty} f_{n_k}(x) = 0$ holds almost everywhere on $[0,1]$, where

$n_1 < n_2 < \ldots < n_k < \ldots$ is a certain sequence of integers, then

$$\sum_{k=1}^{\infty} f_n(x)$$

is universal with respect to permutations in the class of the almost
everywhere finite measurable functions in the sense of summability
almost everywhere on $[0,1]$ by the given Cesaro method.

Theorem 5 concludes from the universality with respect to permuta-
tions in the sense of convergence in measure to the universality
with respect to permutations in the sense of summability almost
everywhere.

Theorem 6 states that to every normed base $\{\varphi_n(x)\}$ of $L_p[0,1]$,
$p > 1$, there exists a series $\sum a_n f_n(x)$, $a_n \to 0$, which is

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On Series Which are Universal With Respect to Permutations

universal with respect to permutations in the sense of summability
almost everywhere by a given Cesaro method.

The author mentions P. L. Ul'yanov, N. K. Bari, Yegorov and D. Ye.
Men'shov.

There are 11 references: 7 Soviet, 2 Polish, 1 French and 1 American.

ASSOCIATION: Institut matematiki i mekhaniki AK nauk Armyanskoy
SSR Yerevanskiy gosudarstvennyy universitet
(Institute of Mathematics and Mechanics of the
Academy of Sciences Armyanskaya SSR Yerevan State
University)

PRESENTED: by J. N. Vekua, Academician

SUBMITTED: June 8, 1959

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29836
S/044/61/000/007/005/055
C111/C222

16.3600   *16.4100*

AUTHOR: Talalyan, A.A.

TITLE: On the limit functions of series in terms of bases of the
            space L_p

PERIODICAL: Referativnyy zhurnal, Matematika, no. 7, 1961, 5,
            abstract 7 B 19. (Dokl. AN Arm SSR, 1960, 30, no. 3, 129-134)

TEXT: The author gives (without a detailed proof) assertions the most
essential of them generalize the results for trigonometric series proved
by D.Ye. Men'shov (R zh Mat, 1959, 1378). E.g. there holds the theorem
(definitions cf. R zh Mat, 1959, 1378): Let $F(x)$ and $G(x)$ be measurable
functions defined on $[0,1]$ so that $G(x) \leq F(x)$ almost everywhere. If then
a non-empty set of functions $M = \{\varphi(x,E)\}$ satisfies the conditions
$\alpha)$, $\beta)$ and $\gamma)$, then for every normed base $\{\varphi_n(x)\}$ of the space
$L_p(0,1)$ with $p > 0$ there exists a series

$$\sum_{n=1}^{\infty} a_n \varphi_n(x) \quad (\lim_{n \to \infty} a_n = 0) \tag{1}$$

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On the limit functions of series   ...

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so that M is the set of all of its limit functions, while $G(x)$ and $F(x)$ are its greatest lower bound and least upper bound with respect to the measure on $[0,1]$. The author also gives an assertion having a new character (even with respect to the form). Namely it holds the theorem :
Let $\{\varphi_n(x)\}$ be a normed base of the $L_p(0,1)$ with $p > 1$. Then there exists a series (1) so that for every set $M = \{\varphi(x,E)\}$ and functions $F(x)$ and $G(x)$ $(G(x) \leq F(x))$ which satisfies the conditions $\alpha)$, $\beta)$ and $\gamma)$ a certain rearranged series (1)

$$\sum_{k=1}^{\infty} a_{\nu_k} \varphi_{\nu_k}(x)$$

has the property that M is the set of all of its limit functions, and $G(x)$ and $F(x)$ are its greatest lower bound and least upper bound with respect to the measure on $[0,1]$.

[Abstracter's note: Complete translation.]

Card 2/2

TALALYAN, A.A.; KEGEYAN, E.M.

Average polynomial approximation in a single circle.
Dokl.AN Arm.SSR 31 no.1:3-8.'60.   (MIRA 13:9)

1. Institut matematiki i mekhaniki Akademii nauk Armyanskoy
SSR. Predstavleno akad. AN ArmSSR A.L. Shaginyanom.
    (Polynomials)   (Approximate computation)

S/022/61/014/003/002/008
D201/D304

AUTHOR: Talalyan, A.A.

TITLE: Convergence of a Fourier series in infinity

PERIODICAL: Akademiya nauk Armianskoy SSR. Izvestiya. Seriya
             fiziko-matematicheskikh nauk, v. 14, no. 3, 1961,
             35 - 41

TECT: The author derives a theorem stating the conditions in
which a trigonometrical series

$$\frac{a_o}{2} + \sum_{n=1}^{\infty} a_n \cos nx + b_n \sin nx,$$

which may be a Fourier series, is convergent in positive infinity.
Theorem: There exists a function $f(x)$ for a given number $p \geqslant 1$ of
the class Lp $[-\pi, \pi]$ and a quantity $A =/- \pi, \pi/$ such that: a)
the cross section of the quantity A with any interval in the limits

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